

**Abstract**

A genetic analysis device particularly for determining the presence or absence of Single Nucleotide Polymorphisms (SNPs) within specific sequences of DNA. The device includes a housing, at least one glass slide member, and an elastomeric member with channels thereon. Oligo arrays are spotted on the glass slide member(s) and subjected to DNA samples, reagents or the like. A plurality of openings or ports allow entry of samples, reagents or wash materials, while a plurality of exit ports or openings allow removal of such materials. The assay devices can be used for multiple samples or a single sample. A plurality of synthesis devices can be positioned in a support base in order to allow sampling in an automated manner. The synthesis devices can be provided in a 96 well microtiter format.